

## **ELECTRICAL SIMULATION PROJECTS LIST**

### **2024**

1. Analysis of Renewable Energy Sources and Electrical Vehicles Integration Into Microgrid
2. Optimal Tuning of Current Mode Controllers by Mapping to State-Feedback With Integral for Fuel Cell
3. Voltage Sag Swell and Interruption Compensation Using DVR Based on Energy Storage Device
4. A Grid Connected PV Array and Battery Energy Storage Interfaced EV Charging Station
5. A New Multilevel Inverter With Reduced Component Count for a Standalone Solar Energy Conversion System
6. Hybrid Compensation Based Efficient Wireless Charging System Design With Solar Photovoltaic Interface
7. Performance Analysis of a High Gain Bidirectional DC-DC Converter Fed Drive for an Electric Vehicle Wi
8. Power Quality Improvement in a PV Based EV Charging Station Interfaced with Three Phase Grid
9. A Comparative Study of Cutting-Edge Bi-Directional Power Converters and Intelligent Control Methodologies for Advanced Electric Mobility
10. High Power Density On-Board Charger Featuring Power Pulsating Buffer
11. Three-Phase AC/DC Quasi-Single-Stage Isolated Resonant PFC Converter With Integrated Transformer
12. A Grid Connected PV Array and Battery Energy Storage Interfaced EV Charging Station

### **2023**

1. A Multiport Charger For Light Electric Vehicles With Function Of Powering Domestic Appliances

2. Design And Analyze Of Coordinated Control Of Hybrid Pv-Wind Power Generation System
3. Design And Simulation Of Pmsg Based Wind Energy Conversion System
4. Designing A Solar Wind Hybrid Power System For Charging Electric Vehicles
5. Grid Connected Off-Board Ev Charger With V2g G2v And V2v Capability
6. Performance Analysis Of A High Gain Bidirectional Dc-Dc Converter Fed Drive For An Electric Vehicle
7. Power Generation Of Wind-Pv-Battery Based Hybrid Energy System For Standalone Ac Microgrid Application
8. Suppression Of Dc Voltage Ripple Impact On Non-Isolated Single-Phase Half-Bridge Unified Power Quality
9. Three Phase Bi-Directional Electric Vehicle Battery Charger With G2v Amp V2g Technologies
10. V2g And G2v Operation Of A Bidirectional Battery Charger For Ev

### **2022-2018**

1. A New Multi-Output DC-DC Converter for Electric Vehicle Application
2. Battery Current-Sharing Power Decoupling Method for Realizing a Single-Stage Hybrid PV System
3. Soft Switching Multiphase Interleaved Boost Converter With High Voltage Gain for EV Applications
4. Solar PV-Fed Multilevel Inverter With Series Compensator for Power Quality Improvement in Grid-Connected System
5. Single-Phase Boost DC-Link Integrated Cascaded Multilevel Inverter for PV Applications
6. High Speed SRM Usingvector Control for Electric Vehicle
7. Off-Board Electric Vehicle Battery Charger Using PV Array
8. Power Quality Improvement Using Dynamic Voltage Restorer
9. Five-Level One-Capacitor Boost Multilevel Inverter

10. A Novel Three-Level CLLC Resonant DC-DC Converter For Bidirectional EV Charger In DC Microgrids
11. Multilevel Converters With Symmetrical Half-Bridge Submodules And Sensorless Voltage Balance
12. A Step-Up Switched-Capacitor Voltage Balancing Converter For NPC Multilevel Inverter-Based Solar PV System
13. A Low-Harmonic Control Method Of Bi-Directional Three-Phase Z-Source Converters For Vehicle-To-Grid Applications
14. A Deadbeat Current Controller Of LC-Hybrid Active Power Filter For Power Quality Improvement
15. A Step-Up Multilevel Inverter Topology Using Novel Switched Capacitor Converters With Reduced Components
16. An Efficient Inductive Power Transfer Topology For Electric Vehicle Battery Charging
17. Cascaded Multilevel Inverter Based Power And Signal Multiplex Transmission For Electric Vehicles
18. Fuel Cell Integrated Unified Power Quality Conditioner For Voltage And Current Reparation In Four-Wire Distribution Grid
19. High Performance Frequency Converter Controlled Variable-Speed Wind Generator Using Linear-Quadratic Regulator Controller
20. Effective grid connected power injection scheme using multilevel inverter based hybrid wind solar energy conversion system
21. Grid-Connected Wind-Photovoltaic Cogeneration Using Back-to-Back Voltage Source Converters
22. Stability Improvement of Microgrids Using a Novel Reduced UPFC Structure via Nonlinear Optimal Control
23. Single-Stage Bidirectional Buck-Boost Inverters Using a Single-Inductor and Eliminating Common-Mode Leakage Current

24. Power Quality Improvement and PV Power Injection by DSTATCOM With Variable DC Link Voltage Control from RSC-MLC
25. Power Factor Correction of Three-Phase PWM AC Chopper Fed Induction Motor Drive System Using HBCC Technique
26. High-Efficiency Bidirectional Buck-Boost Converter for Photovoltaic and Energy Storage Systems in a Smart Grid
27. Low Switching Frequency Based Asymmetrical Multilevel Inverter Topology With Reduced Switch Count
28. Enhancement of Solar Farm Connectivity with Smart PV Inverter PV-STATCOM
29. A Single-Stage Single-Switch Soft-Switching (S6) Boost-Flyback PFC Converter
30. A Family of Ćuk-, Zeta-, and SEPIC-based SoftSwitching DC-DC Converters
31. A Five-Level Inverter Scheme Using Single DC Link with Reduced Number of Floating Capacitors and Switches for Open-End IM Drives

1	Standalone Photovoltaic WATER Pumping System Using Induction Motor Drive with Reduced Sensors
2	A Novel Design of Hybrid Energy Storage System for Electric Vehicles
3	Design and Performance Analysis of Three-Phase Solar PV IntegrATed UPQC.
4	Rectifier Load Analysis for Electric Vehicle Wireless Charging System.
5	Development of a Bidirectional DC/DC Converter with Dual-BATtery EnergyStorage for Hybrid Electric Vehicle System.
6	An Improved DC-Link Voltage Control StrATegy for Grid Connected Converters.
7	Single-stage ZETA-SEPIC-based multifunctional integrATed converter for plugin electric vehicles
8	Modeling, Design, Control, and ImplementATIOn of a Modified Z-sourceIntegrATed PV/Grid/EV DC Charger/Inverter
9	A Simple Active and Reactive Power Control for ApplicATIons of Single-Phase Electric Springs
10	A New Design Method of an LCL Filter Applied in Active DC-TractionSubstATIons

11	ImplementATion and Comparison of Symmetric and Asymmetric MultilevelInverters for Dynamic Loads
12	Crisscross switched multilevel inverter using cascaded semi-half-bridge cells
13	A Buck & Boost based Grid Connected PV Inverter Maximizing Power Yieldfrom Two PV Arrays in MismATched Environmental Conditions
14	A Grid Connected Single Phase Transformerless Inverter Controlling Two SolarPV Arrays OperATing under Different ATmospheric Conditions
15	Improved control algorithm for grid connected cascaded H-bridge photovoltaicinverters under asymmetric operATing conditions
16	Power management in PV-bATtery-hydro based standalone microgrid
17	Dynamic Power Management and Control of PV PEM fuel Cell based StandaloneAC/DC Microgrid Using Hybrid Energy Storage
18	ISOGI-Q Based Control Algorithm for Single Stage Grid Tied SPV System
19	An f-P/Q Droop Control in Cascaded-Type Microgrid
20	Control of a Three-Phase Hybrid Converter for a PV Charging StATion
21	Autonomous Power Management for Interlinked AC-DC Microgrids
22	Multi-Input Switched-Capacitor Multilevel Inverter for High-Frequency AC Power Distribution
23	Phase Shifted Carrier Based Synchronized Sinusoidal PWM Techniques forCascaded H-Bridge Multi Level Inverter
24	Autonomous Power Control and Management Between Standalone DC Microgrids